

January 17, 2005

Nuclear Management Company Comments to ET Docket No. 05-345

The Nuclear Management Company (NMC) operates seven nuclear power reactors at five sites in the upper Midwest. These plants produce over 4,000 megawatts of electricity to provide power to over a 1.1 million households. The plants of NMC are

- Duane Arnold Energy Center in Palo, Iowa
- Monticello Nuclear Generating Plant in Monticello, Minnesota
- Palisades Nuclear Power Plant in Covert, Michigan
- Point Beach Nuclear Power Plant in Two Rivers, Wisconsin
- Prairie Island Nuclear Generating Plant in Welch, Minnesota

In summary, NMC uses Telex equipment because its technology substantially contributes to ensuring that nuclear plant operations are conducted with utmost safety.

Telex equipment is used during important evolutions where clear communication is essential to the safe performance of a number of complex activities. These activities include surveillance testing, crane operation/heavy load movements, oversight and control of jobs in high radiation dose or radioactive contamination areas, confined space entries, dry fuel storage evolutions, management oversight of complex evolutions, and movement of nuclear fuel to name a few. In many of these activities, the Telex equipment is specifically used since it will not cause inadvertent actuation, or alarm of equipment, or interfere with radio-controlled equipment (cranes) due to its low power output where cellular phones and two-way radios have been shown to interfere with equipment.

In most evolutions, the Telex systems are used inside specially fortified concrete buildings especially during plant outages when the systems are extensively used to improve numerous aspects of nuclear safety. Even in situations where the equipment has been used outside of buildings to support safety-sensitive activities, equipment tests have shown the signal is attenuated prior to leaving the Owner Controlled Area of the nuclear plant. But the true benefit of the Telex technology is due to the operating frequency range inside of the concrete buildings. Due to the numerous rebar-reinforced concrete walls that are specifically designed to provide adequate nuclear safety and withstand an array of required postulated events, the specific wave-length range of the Telex equipment gives us the opportunity to send and receive signals without being in a "line of sight" configuration.

NMC depends on the Telex equipment for sensitive activities because this technology is far superior to the alternatives and in areas where other wireless communication devices have been shown to interfere with operation of sensitive electronic equipment. Noise elimination is much superior to the other technologies available. Since most power plants are very noisy, use of Telex equipment prevents confusion caused by trying to be understood in a noisy environment. This results in fewer errors during complex evolutions. Further, other technologies available in the market cannot overcome the issue of "dead spots," where the equipment cannot be used because the design of the building structures interferes with the transmission characteristics of the technology. To remove the "dead spots" that occur with other equipment, repeaters are necessary to eliminate the "line of sight" problem. Due to the unique design requirements and circumstances encountered in a nuclear power plant, the use of Telex equipment is the only technology we have found to date that allows us to achieve the level of communication needed to ensure the level of safety demanded in the nuclear industry. With the use of the Telex systems, personnel can enter "dead spot" areas carrying a headset / beltpack and communicate important information clearly. This has improved nuclear safety considerably.

After attempting to achieve uninterruptible communication on several critical evolutions (Containment Equipment Hatch closure, Reactor Head and Upper Reactor Vessel Internals movement, fuel movements, plant system and valve alignments, load movements with cranes, etc.), Telex equipment has been found to be the most dependable (e.g., interruption free).

The Telex systems also provide another major benefit as they contribute to a substantial reduction in occupational radiation dose to workers. NMC uses Telex communication equipment as part of our strategy to meet NRC requirements, codified at 10 CFR 20, which direct licensees to maintain radiation exposure to plant workers As Low As Reasonably Achievable (ALARA). More specifically, by using this technology in conjunction with closed-circuit video systems, a supervisor or Radiation Protection technician (RP Tech) can perform required surveillance on nuclear workers without accompanying the worker. With remote radiation dosimetry and the surveillance system, the supervisor or RP Tech can better monitor the workers remotely and be in constant communication. Using a system which includes Telex equipment as the communication component, has reduced radiation dose to workers by preventing miscommunication and resultant errors due to noisy work environments, work delays (workers can communicate without leaving the work site to answer questions, request needed tools/parts, be given step by step instructions, etc.) and a host of other problems. Use of the Telex hands-free technology in the nuclear context has improved worker productivity in high radiation dose and radioactive contamination areas. In essence, Telex allows workers to complete their jobs more efficiently, thus reducing the amount of time spent in high radiation areas. This benefit is not available with other technologies we have tested due to the interference caused by the robust design of the nuclear plant structures.

The Telex technology has other features that make it critically important in the nuclear context. For example, it is used at less than 100 m/hz. As such, the low output power does not interfere with other communication or control systems at the plant and, equally important, in the surrounding neighborhood. Another very important aspect of the Telex equipment's low output power is that it does not cause inadvertent actuation or alarm of sensitive nuclear plant equipment which other available technologies cause. Finally, with respect to wave-length range, this equipment outperforms other equipment in the very congested internal nuclear plant environment.

In summary, the nuclear industry needs to use the Telex technology to continue the improvements in performance and safety that we have experienced over the last ten years. The use of this technology at nuclear plants has never interfered with the broadcast or entertainment industry in any way and is not expected to interfere in the future. For the same reason the broadcast and entertainment industry has gone to this technology over the years to improve their communications, we in the nuclear industry want to continue to improve our communications to reduce errors and improve safety. During your consideration of this issue, we in the nuclear industry need this technology to continue to protect the health and safety of the public now and in the future. Without this technology, we will be taking a step back to a time when communications at nuclear plants were inferior to what is present today with the Telex technology.

Respectfully submitted,

/s/ Scott Nelson (by ECG)
Fleet Radiation Protection/Chemistry Manager
Nuclear Management Company